

WHAT IS CLAIMED IS:

1. An engine having a variable compression ratio, the engine comprising:
a guider formed above a main bearing supporting a crankshaft;
5 a cylinder block having a connection portion for movably supporting the
guider;
at least one piston reciprocally disposed in the cylinder block; and
an actuator disposed to the main bearing, for moving the main bearing in
accordance with an operational condition of the engine such that the crankshaft is in line
10 with or offset from a reciprocating center of the piston.

2. The engine of claim 1, further comprising an electronic control unit for
operating the actuator.

15 3. The engine of claim 1, wherein the connection portion comprises a guide
groove within which the guider is movably engaged.

4. The engine of claim 1, wherein:
the actuator moves the main bearing to be offset from the reciprocating center
20 of the piston when the operational conditions are low speed and low load; and
the actuator moves the main bearing to be in line with the reciprocating center
of the piston when the operational conditions are high speed and high load.

5. An engine having a variable compression ratio, comprising:
25 a cylinder block defining at least one cylinder;
at least one piston reciprocally disposed in said at least one cylinder for
movement along a reciprocating center line;
a crankshaft slideably disposed below said pistons for transverse movement
with respect to said reciprocating center line; and
30 a connecting rod connecting said at least one piston to said crankshaft.

6. The engine of claim 5, further comprising:
a sliding bearing mounted on the cylinder block; and
a main bearing supporting the crankshaft carried by said sliding bearing.

5 7. The engine of claim 6, further comprising an actuator acting on the main
bearing to control the transverse movement of the crankshaft.